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LeA 35,192C

A PROCESS FOR PRODUCING ALIPHATIC OLIGOCARBONATE DIOLS

CROSS REFERENCE TO RELATED PATENT APPLICATION

This application is a Continuation-In-Part of U.S. Serial
No. 10/180,831 filed June 26, 2002, now United States Patent
No. 6,818,784

FIELD OF THE INVENTION

R.O.
4/11/03

The present invention relates to a new process for producing
aliphatic oligocarbonate diols by the transesterification of aliphatic diols
with dimethyl carbonate (DMC) under elevated pressure. The process
according to the invention also makes it possible to produce aliphatic
5 oligocarbonate diols on a large industrial scale and with a high space-time
yield (STY) from readily available DMC.

BACKGROUND OF THE INVENTION

Aliphatic oligocarbonate diols are important precursors for the
10 production of plastics, lacquers and adhesives, for example. They are
reacted with isocyanates, epoxides, (cyclic) esters, acids or acid
anhydrides, for example. They can be produced from aliphatic diols by the
reaction thereof with phosgene (e.g. DE-A 1 595 446), esters of bis-
chlorocarbonic acid (e.g. DE-A 0 857 948), diaryl carbonates (e.g.
15 DE-A 1 915 908), cyclic carbonates (e.g. DE-A 2 523 352: ethylene
carbonate) or dialkyl carbonates (e.g. DE-A 2 555 805).

Of the carbonate sources, diphenyl carbonate (DPC), which is a
diaryl carbonate, is particularly important, since aliphatic oligocarbonate
diols of particularly high quality can be produced from DPC (e.g.
20 US-A 3 544 524, EP-A 0 292 772). In contrast to all other carbonate
sources, DPC reacts quantitatively with aliphatic OH functions, so that
after removing the phenol which is formed, all the terminal OH groups of

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Date of Deposit December 12, 2003

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